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ON

EFFECTS OF HURRICANES KATRINA AND RITA
ON THE FISHING INDUSTRY AND FISHING COMMUNITIES
IN THE GULF OF MEXICO

BEFORE THE
SUBCOMMITTEE ON FISHERIES AND OCEANS
COMMITTEE ON RESOURCES
UNITED STATES HOUSE OF REPRESENTATIVE

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Thank you, Mr. Chairman and members of the Committee, for the opportunity to testify before you on the effects of hurricanes Katrina and Rita on the fishing industry and fishing communities in the Gulf of Mexico. I am William Hogarth, Assistant Administrator of the National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA) within the Department of Commerce. Many of NOAA's capabilities were directly involved in this unprecedented series of storms in the Gulf of Mexico, from hurricane prediction, through hydrographic surveys after the storm to reopen the shipping channels, to the response to the various petroleum and chemical spills resulting from the storm's damage. NOAA had planes in the air, ships at sea, satellite imagery available and people on the ground to respond to the hurricane before during and after the event. My testimony today will focus on the impact to the fisheries of the Gulf of Mexico and address seven main areas of the extent of damage caused by these storms and a rational approach of recovery and rebuilding the resource and lives of those impacted by these extraordinary powerful storms.

Hurricanes Katrina and Rita first caused damage to the fishing industry and fishing communities as they came across the Florida Keys into the Gulf of Mexico, before turning north and making landfall on the eastern and western coasts of Louisiana, respectively. As a result of the damage caused by these storms, we immediately worked with affected Gulf states to prepare Declarations of Fisheries Disasters. It should be noted a third storm, Hurricane Wilma, also caused extensive damage in south Florida, resulting in an unprecedented third fisheries disaster declaration.

The Gulf of Mexico is home to a significant share of the U.S. fishing industry, contributing almost 20% of commercial landings and roughly 30% of saltwater recreational fishing trips. The Gulf shrimp industry is the single most valuable fishery in the United States, with 2004 ex-vessel landings worth approximately $367 million *(Fisheries of the United States, 2004).* Four of the top 10 commercial fishing ports in the Nation were directly impacted by these storms. Further,

the Gulf of Mexico has recreational and for-hire fisheries unmatched anywhere in the United States, with over 24 million fishing trips taken during 2004. Hurricanes Katrina and Rita had a major impact on both of these sectors as well as on the supporting infrastructure that the commercial harvesters rely upon to operate (e.g., seafood dealers, processors, suppliers) and anglers require to go fishing (e.g., bait shops, marinas, etc.). NMFS has conducted a series of assessments of the commercial and recreational fishing sectors as well as the coastal communities and their supporting marine infrastructure as an initial step in assessing hurricane-related damages. Much of the commercial, recreational, and for-hire industries have been severely impacted as a result of the damage caused by these storms.

NOAA laboratories, offices, and personnel were at ground zero before the two storms made landfall. Two of our laboratories in Mississippi were severely damaged by Hurricane Katrina. Within a few days of the storm, once we had made sure our NOAA staff was safe, we mobilized federal and contract employees to the affected area, both on land and on research vessels, to initiate our investigations of the extent of damage caused by these devastating hurricanes. Even before the storms hit the northern Gulf, NMFS was preparing a Turtle Excluder Device (TED) exemption in the expectation that the level of debris following the storms would severely hamper shrimp vessel operations once they were able to resume fishing. Our Southeast Regional Office Protected Resource staff were standing by to immediately address Endangered Species Act (ESA) actions to facilitate channel dredging and critical habitat section 7 issues.

Amount and Extent of the Damage Caused by the Storms

NOAA immediately initiated investigations on several fronts, including the extent of infrastructure damage; potentially harmful pollutants and contamination from oil spills and other material released into the environment, if any; social and economic impact on industries dependent upon commercial, recreational, and for-hire fisheries; and mapping of the extent of habitat loss from storm surge and wave action. Within days of hurricanes Katrina and Rita, NMFS personnel were working cooperatively with Gulf state resources directors and the Gulf States Marine Fisheries Commission (GSMFC) to implement an assessment and recovery strategy. Because of the extent of damage in Alabama, Louisiana, and Mississippi, the states indicated their most immediate need was to estimate the extent of infrastructure and vessel damage and impacts on coastal communities with valuable fishing industries. We were able to quickly respond to their request through short-term contracts with local experts. Within three weeks of the storm, NMFS had executed a contract with social scientists in Alabama and Mississippi to assess fishing and community impacts. NMFS also provided additional funds for Joint Enforcement Agreements to states.

To gain some understanding of the magnitude of the damage, NOAA also worked with the Gulf of Mexico Fishery Management Council and GSMFC. Through this mechanism, each state provided an estimate of the damage most impacting their states. There were many kinds of economic impacts resulting from the hurricanes, including the permanent loss of capital and infrastructure such as boats, fishing gear, docks, marinas and support facilities. Some of this lost capital is natural, not man-made, and the impact takes the form of lost or degraded wetlands, habitats and fishing grounds. There are also the direct losses associated with the disruption in the harvest of seafood and the provision of recreational opportunities. These “missing” fishing trips

are temporary and may return if the infrastructure is rebuilt. However, every loss of a trip also creates further economic impacts for those who supply inputs (e.g., bait, fuel, ice, lodging, food, etc.) and for those who rely on the outputs (e.g., processors, wholesalers, retailers, etc) from the trip.

All our current estimates are preliminary and subject to change as more information becomes available. While these estimates are preliminary, they do provide an insight into the extent of the damage and a minimum value of the economic losses.

- The man-made infrastructure losses were estimated to include $330 million in lost capital infrastructure throughout the Gulf, and in Florida alone an additional $35 million in lost fishing gear from stone and lobster fisheries.
- In natural capital losses, in Louisiana, damage to reefs and oyster beds will require $104 million in replacement costs for reef rehabilitation and oyster transplant, and $10 million for restoration of lost coastal wetlands.
- The loss of commercial fishing trips resulted in $490 million in lost dockside commercial revenues, and in Alabama alone an additional reported $138 million in processed marine product loss.
- Gulf-wide, the loss of recreational fishing trips resulted in $990 million in lost recreational economic activity which includes lost revenues from restaurants, lodging and marinas.

Short and Long-Term Damage

The short-term recovery and long-term viability of restored fisheries in the affected areas are impacted by the following factors: (1) fishing ground accessibility and damage (dredging, accessibility to fishing grounds); (2) status of infrastructure for fishing activity (fuel, ice, dockage, offloading capabilities); (3) extent of damage to fishing vessels (by fishery, including state and federal waters) and to fishery resources (shellfish and finfish); (4) quality of seafood (toxicity issues); and (5) extent of essential fish habitat damage (estuary, barrier islands, etc). NOAA is currently investigating each of these critical factors.

In general, most of the potential fishery resource damage will likely be short-term in nature, particularly shrimp and finfish resources—oysters will require a longer period of time to recover. After oyster beds are cleaned and/or replanted, it can take up to two years to grow commercial-size oysters. The three TED exemptions for the shrimp fleet in the northern Gulf provide the industry with opportunity to fish in areas that would otherwise be unfishable.

The damage to infrastructure and to coastal habitat will have much longer term impacts on Gulf of Mexico commercial, recreational, and for-hire fisheries. Fishers with sea-worthy vessels are able to fish; however, finding areas to offload catch or obtain ice and other support services is problematic. Some dock and processing facilities may not rebuild— some are being offered large sums of money for shore-side property to build condominiums. The for-hire fleet is in danger of experiencing long-term damage by loss of their customer base due to a lack of support infrastructure, including hotels, restaurants, and accessibility.

Effects of the Hurricanes on the Fishery Resources, the Industry, and Communities

In 2004 the first sale value of commercial harvest in the areas impacted by Hurricanes Katrina and Rita was $595 million—Louisiana $293 million, Western Florida $146 million, SE Texas $76 million, Mississippi $44 million, and Alabama $37 million. Shrimp are the most valuable species of the region affected by the hurricanes ($285 million), followed by oysters ($59 million), and a variety of other finfish and shellfish species ($251 million).

We estimated the impacts of the hurricanes on fishing activity by comparing fishery landings in September 2005 (after Katrina), with September catches from the same states in 2003 and 2004. In 2003-2004 the average September catches of shrimp and oysters were valued at $60 million and $4 million, respectively. Based on figures obtained for September 2005, there was a 97% reduction in shrimp landings and a 94% reduction in oyster landings, representing a combined loss of over $62 million for the month of September alone. Louisiana catches dropped off entirely for these species. Catches of a number of finfish species were essentially zero in September 2005, including menhaden, blue crab, spiny lobster, stone crab, yellowfin tuna, mullets, and freshwater crawfish. Reef fish catches declined by 44% region wide. These reductions in commercial catches have persisted in most affected areas since September 2005.

Hurricanes Katrina and Rita impacted recreational fishing from the Florida panhandle through Southeast Texas, with additional impacts being felt in southern Florida, particularly the Keys. The recreational fishery is comprised of private trips made in boats or shore fishing, and "for hire" trips which are chartered vessels. The region's recreational fishing industry is valued at over $6.3 billion annually, with 26 million private recreational fishing trips and 940,000 chartered fishing trips in 2004. Due to the effects of the hurricanes, charter vessel economic activity declined 58% in September as compared with September 2002-2004. The most significant declines were in Alabama and Louisiana (66% and 64%, respectively).

Effects on Fishery Infrastructure — Hurricanes Katrina and Rita devastated the shoreside infrastructure and fishing fleet, in a wide swath from Mississippi Sound through the Louisiana Delta, including parts of the Florida Keys, western Louisiana, and eastern Texas. There is no conclusive estimate of the number of fishing vessels sunk or driven ashore, but the U.S. Coast Guard initially estimates the number to be between 3,500 and 5,000. This estimate includes nearly 2,400 commercial vessels and 1,200 recreational boats. NOAA contractors also estimated that in Mississippi and Alabama alone, 452 vessels 30' and greater in length were sunk or driven ashore. Numerous other vessels still afloat were damaged or nearly destroyed due to the hurricane effects.

Shore-side infrastructure was devastated in many areas of Mississippi, eastern Louisiana, and Alabama. For example, the two primary fishing ports in Alabama are Bayou La Batre and Bon Secour. Bayou la Batre typically produced about three-fourths of all Alabama seafood landings, with shrimp accounting for 90% of all landed seafood value, and contributing about $350 million a year to the state economy. As of October 8, 2005, fishing boats have not been able to leave the port. Most seafood processing plants have closed since Hurricane Katrina devastated the town.

Biloxi is the principal Mississippi fishing port, with Pass Christian and Pascagoula traditionally serving as satellite fishery ports. In 2003, Gulfport-Biloxi commercial fishery participants caught 17.4 million pounds of fish with a market value of $26.8 million dollars, ranking it 22nd of all commercial ports in the nation. Most docking facilities and marinas were destroyed or severely damaged. The docking facilities that are open are only partially operational. In Biloxi, only 60% of each of the four operational commercial docks is usable. Of its two recreational docks, one is 80% operational as of mid-November 2005. All three of Biloxi's marine haul-out facilities are destroyed and not operating. Pass Christian's commercial fishing industry is centered around its main harbor, which was nearly completely destroyed.

The lack of harbor facilities has made it extremely difficult to obtain ice and fuel in Mississippi. By early November, the only way the few Mississippi shrimpers were working was by using fuel they already had in storage or traveling to Alabama for diesel and trucking ice from inland grocery stores.

None of Biloxi's three boatyards and builders are currently operating. Additionally, all four of the fishing gear, electronics, welding, and smaller repair shops are closed with severe damages, if not destroyed.

The situation is similar in parts of Louisiana, although surveys there are not yet complete. The fishing infrastructure of the ports of Empire, Plaquemines and other ports south of New Orleans were virtually completely devastated and are currently not functioning.

Seafood Imports and Exports — Preliminary import and export data for four ports indicates that the storms severely disrupted trade. The ports of New Orleans, Mobile, Port Arthur, and Tampa accounted for an average of $51 million in fishery imports and $3.4 million in exports during September 2000-2004. In September 2005, imports declined 52% and exports 10% as compared with earlier years. This is due on the import side to the lack of infrastructure, and on the export side to the loss of fishing capacity and infrastructure.

Effects on Fishery Resources — Effects on the abundance, distribution and the safety of seafood in the northern Gulf are being evaluated by state agencies, and by NOAA and other federal agencies. By far, the worst resource devastation has occurred for oyster populations. The Mississippi Department of Marine Resources has been conducting a survey of the state's oyster beds (mostly located on the western part of the coast). According to their estimates, approximately 90% of Mississippi oyster beds were damaged and disrupted by Hurricane Katrina. Although they have found active beds, they have not found one that may be harvested from and they do not expect oysters to be able to be harvested for at least another two years. Currently, 100% of Mississippi's oyster fleet is out of work because of Hurricane Katrina. Oyster populations were similarly affected in parts of Louisiana.

In contrast, populations of shrimp and finfishes in offshore areas of the northern Gulf of Mexico fared better. Annual surveys of the shrimp and bottom fish populations of the Northern Gulf have been conducted by the NMFS Pascagoula Laboratory each fall since 1972. Despite the destruction of the Pascagoula laboratory, staff was able to conduct the survey beginning in October 2005 using the NOAA research Vessels *OREGON II* and *GORDON GUNTER*.

Preliminary results of this survey indicate that shrimp and bottom fish abundance was the same or slightly higher than in the fall of 2004, with shrimp and other valuable species relatively abundant and widely distributed.

Studies conducted in Barataria Bay, LA post Katrina/Rita also indicated shrimp and fish abundance at near normal levels and water temperatures and salinities near normal.

Thus it appears that shrimp and finfish resources of the Northern Gulf fared much better during and after the hurricanes than did the fishing infrastructure that uses them.

Seafood quality —Considerable attention has been focused on the impacts of the hurricanes on the safety and quality of seafood for consumption. Within two weeks following landfall of Katrina, NOAA scientists began sampling seafood species for evidence of hydrocarbons, persistent organic pollutants, and bacterial contamination. These efforts were coordinated with the Food and Drug Administration, the U.S. Environmental Protection Agency (EPA), U.S. Department of the Interior, and the health and marine resource agencies of the affected states. NOAA used its research vessels and charted commercial fishing vessels to obtain representative samples. To date, seafood samples indicate no toxic contamination above FDA guidelines, and in only a few cases do seafood samples exceed the much more restrictive EPA guidelines. Enhanced monitoring activities for seafood safety will continue because of the potential for delayed uptake of pollutants in the food chain.

Effects on Coastal Wetlands and Habitats **—** Coastal wetland habitats are critical to virtually every commercial and recreationally important living marine resource in the northern Gulf, since estuaries and brackish marshes are breeding and nursery grounds for most species. Louisiana alone has 40% of the remaining coastal marshes in the continental United States. The barrier islands provide protection for both the wetlands and cities and towns adjacent to them. These hurricanes caused significant damage to wetlands and to offshore-barrier islands which protect them.

Total wetlands loss has been conservatively estimated to be over 100 square miles in eastern Louisiana alone due to these storms. This represents at least a four-fold increase as compared to annual average wetlands loss estimates provided by the U.S. Geological Survey.

To stem the long term decline of Louisiana wetlands, NOAA, the U.S. Corps of Engineers, the U.S. Department of Interior, and the State of Louisiana have been participating in programs funded under the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA). CWPPRA sponsors projects to stabilize and rebuild wetlands by water diversions, control structures and physical rebuilding of the marshes to protect the shoreline from erosion and supply vital fisheries habitat. NOAA collected and analyzed remote sensing imagery and conducted on site inspections to identify coastal and shoreline impacts and to determine the status of existing projects. The analysis determined that all nine projects performed as designed and eight of the nine projects suffered almost no damage from the hurricanes. The success rate of these projects represents a wise investment of resources and an effective multi-agency restoration program. Further NOAA analysis (from lower resolution aerial imagery and site

visits) indicates that an additional 29 CWPPRA and Community-based restoration projects in Louisiana suffered little or no damage from the hurricanes.

About eight million gallons of oil was released as a result of the hurricanes. Although some has been recovered, much still remains in the environment including 5-6,000 acres of wetland marsh habitat that was oiled. Clean-up activities in these areas are ongoing, and NOAA is monitoring for the potential uptake of hydrocarbons in seafood species.

How Can Congress and the Federal Government Direct Effective Assistance?

The Gulf of Mexico Fishery Management Council (Council), in an October 7, 2005, letter to Senators Cochran and Lott, proposed programs to restore federal fisheries in the region to sustainable levels. These requests fall into three categories of action: 1) Restore the infrastructure needed to support commercial and recreational fisheries; 2) Provide financial assistance and other types of support services to those fishermen adversely affected by hurricane events; and 3) Develop and fund capacity reduction, bycatch reduction, data collection, monitoring, and enforcement programs intended to improve conservation and management of Gulf of Mexico fisheries over the long term.

The most important criterion to guide assistance decisions is the need to rationally rebuild fishery infrastructure (processing facilities, docks, vessels, etc.) to ensure our efforts to assist affected communities and fishers result in sustainable fisheries, and do not result in recreating our current challenges of over capitalized fisheries. In cooperation with the GSMFC and Council, a suite of programs with short and long term impacts addressing the three areas of critical assistance have been developed. The highest priority programs and their potential impacts are discussed below.

Infrastructure replacement and repair — The most immediate need is to address infrastructure replacement and repair. Working through the states, $325 million will be used to repair or replace fishing vessels, docks, fish houses, ice plants, freezers, and other fishing equipment damaged or destroyed as a result of the hurricanes and not covered or fully covered by insurance. These funds will have both short and long-term benefits. Replacement of damaged shrimp nets ($51.3 million), and lost and/or damaged stone crab and lobster pots ($35 million) would also provide immediate relief. Following protocols derived from disaster assistance over the past 10 years, funds will be allocated as grants to the states for their management and distribution, and if funds are allocated for this program, funds will be distributed to states within four months of their availability.

Financial assistance to the fishing industry— Providing financial assistance to the fishing industry is another high priority. The devastation caused by the hurricanes and the need to reduce capitalization in various fishery sectors will reduce employment opportunities in the fishing sector. Job retraining needs to be offered to mitigate the economic impact of lost fishing opportunities as well as provide an incentive to voluntarily leave the fishing sector, For example, the cost to provide retraining for 1,000 persons would be approximately $10,000 per person for a total of $10 million. The cost per person is derived from a fishery and seafood industry-retraining program offered in Maine since 1995, which retrained 1,300 individuals at a cost of $13 million.

For those who decide to remain in the fishing industry, it is critical the federal government does not recreate the environmental and management problems we were facing before the storms. The Gulf shrimp fishery, while the most valuable fishery in the nation in terms of ex-vessel price, is also severely overcapitalized. Reduction of capacity in the shrimp fishery will improve the profitability in the fishery, assist the reduction of bycatch, and aid the recovery of overfished reef fish. A buyback program would enable fishermen to voluntarily leave the fishery without suffering excessive economic hardship. NMFS estimates the total cost of a shrimp buy-back program would be approximately $211 million. The cost estimate is based on a 50% buyback (1,019 vessels) of active qualifying vessels in 2004 and assumes an average buyback cost of one year average gross ex-vessel receipts ($207,000, based on the 2000 fishery, which is considered the best year economically for the fishery in the past decade). Similar buy-out opportunities could be considered for other over-capitalized fisheries impacted by the storms, including the for-hire charterboat sector ($30 million). Further, for vessels remaining in the fishing industry, gear replacement of damaged TEDS ($13.3 million) and bycatch devices ($47.3 million) with more effective bycatch reduction equipment would help mitigate the economic impact caused by the storms and simultaneously yield positive environmental and stock rebuilding impacts.

Habitat restoration/remediation — Short-term (6-12 months) projects to rebuild wetlands and barrier islands in Plaquemines and Jefferson Parishes, and long-term projects (1-4 years) in Chandelier Islands, Plaquemines Parish, Barataria Barrier Islands, Chenier Caminada, and East Orleans Land Bridge are estimated to cost approximately $511 million. In addition to the efforts above, NOAA believes that short-term relief could assist in rehabilitating damaged oyster production areas and for cleaning debris that currently chokes the bays and sounds of the inshore waters of the affected areas.

How can the Federal Government Assist the States, Localities and the Region in Planning for How the Fishing Industry and Communities Could Look in the Future?

In addition to assisting local institutions in restructuring and revitalizing the fisheries of the Gulf, NOAA has broader capabilities to assist in the rebuilding of coastal wetlands and coastal communities. Existing institutional relationships among NOAA, the U.S. Corps of Engineers, and other federal and state agencies have developed effective strategies to stem the decline and help to rebuild wetlands and barrier islands. These “natural” protections are the first line of defense in building more storm resilient coastal communities. The program could be extended to other states in the Northern Gulf area.

In addition to wetlands habitat rebuilding, NOAA’s Coastal Zone Management Program, the Coastal Services Centers and its Sea Grant institutions have considerable expertise in coastal land use and zoning, shoreline restoration, and community development. These NOAA activities could be brought to bear to assist local and state governments in making the important decisions necessary to make these coastal communities more storm ready and resilient to future hurricanes. By investing now in planning lasting improvements to the fishing industry, fishing-dependent businesses, and the coastal communities, we will reduce the potential losses of future hurricanes, and improve the lives of coastal residents in the affected areas.

How can efforts by the Federal Government Assist the Industry and Fishing Communities in Rebuilding the Fleets and Infrastructure for an Economically and Environmentally Sound Fishery?

The devastation caused by the hurricanes is almost beyond comprehension. NOAA staff has flown over the damaged areas, surveyed the adjacent waters, talked to many displaced individuals from the fishing industry, and visited areas where towns and communities no longer exist. NOAA can help the industry and communities take important environmental and management actions allowing those involved with the fishing to maintain their way of life, or if they so choose, start down a different path with a sense of dignity. All funding decisions must be made in light of the pre-storm status of fisheries in the Gulf of Mexico. The federal government has before it a window of opportunity to help those engaged in the Gulf fishing industry to decide whether or not to remain an active participant or choose a different course of employment. Working with those that remain, we can make fundamental changes to reshape Gulf fisheries, particularly shrimp and reef fish, where the major pre-storm problems were overcapacity and overfishing, by instituting a voluntary buy-out, which will allow those who so choose to recover something from their investment and be provided job retraining. Although the shrimp fishery accounted for the highest total revenue of any fishery in the country, it was marginally profitable due to severe overcapitalization and the effects of vast shrimp imports. One effect of the low profitability of the current shrimp fishery is that most shrimp vessels were uninsured prior to the devastation of hurricanes Katrina and Rita. Thus, there is no insurance money available to rebuild many of the damaged vessels.

The objectives of a re-structured shrimp fishery would be to make it more profitable and able to compete in the international market for shrimp by marketing superior product of locally caught shrimp. Additionally, less shrimp fishing effort will improve the conservation of currently overfished stocks such as red snapper.

How Can We Protect the Identity and Viability of the Coastal Communities?

As we plan for the rebuilding of the fisheries and their supporting communities, it is essential that we recognize and defer to local institutions in making critical decisions affecting the lives of coastal residents of the northern Gulf. Local institutions including the Gulf States Marine Fisheries Commission and the Gulf of Mexico Fishery Management Council have requested assistance from NOAA and Congress in rebuilding fisheries infrastructure in a way that ensures sustainable populations and economically viable fisheries. Local decision makers can craft the specifics of the rebuilding of the fisheries and communities of the area, using resources, technical assistance and expertise supplied by the federal government. The existing fishery institutions in the Gulf area are used to working within broad federal guidelines, such as the Magnuson Stevens Fishery Conservation and Management Act, but crafting their solutions to be sensitive to local concerns. Similarly, Coastal Zone Management authorities, Coastal Service Centers and Sea Grant institutions of NOAA have developed effective federal-state-local partnerships and working relationships. NOAA, in all its offices, stands ready to assist with the rebuilding of the fisheries and the fishing-dependent communities of the Gulf of Mexico affected by these devastating hurricanes.

Thank you Mr. Chairman, and I would be pleased to answer questions posed by you and members of the Committee.